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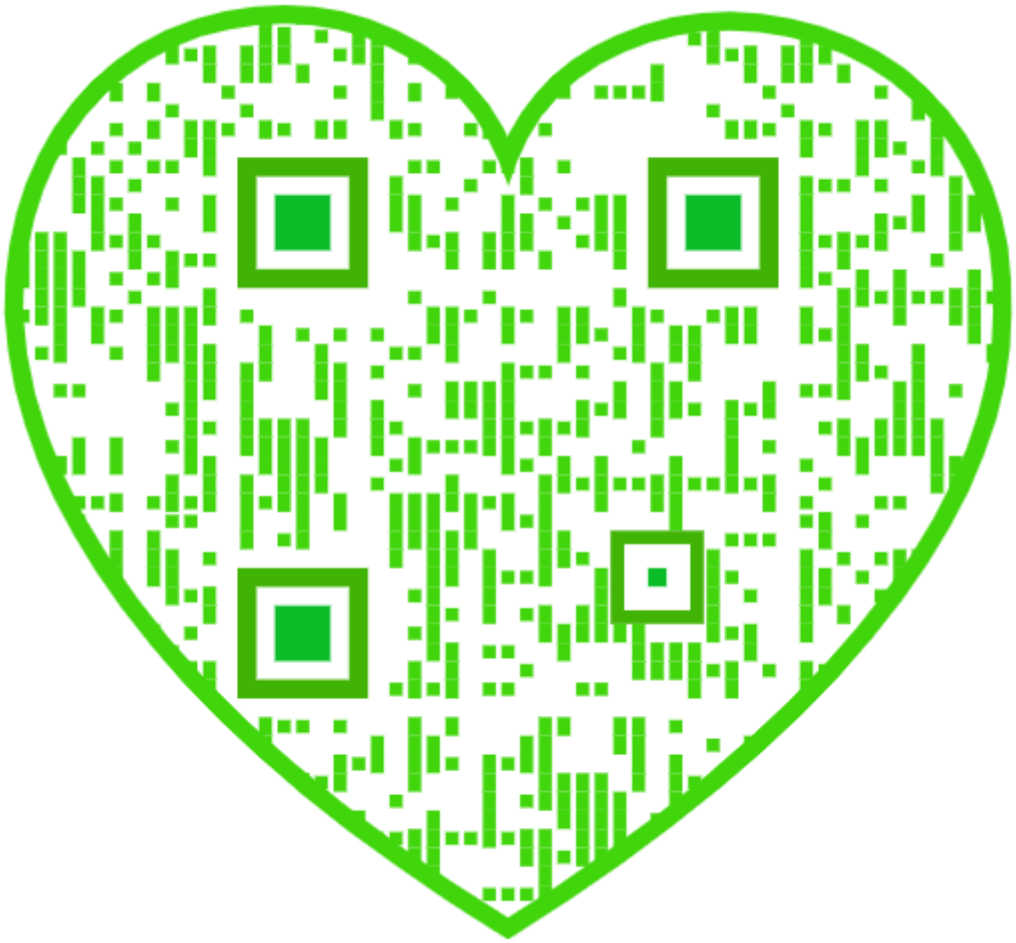
The Cow's Medicine Chest

By VALANCEY E. FULLER



The Cow's Medicine Chest

FOR

Home Use

By VALANCEY E. FULLER

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FOREWORD.

Prevention is always better than cure.

If cows are fed a balanced and well-considered ration—by this we mean one in which the greater proportion is made up of light and cooling feeds—and are fed grain in proportion to the quantity of milk given, but little sickness or udder trouble will be encountered, under normal conditions.

If calves are healthy at birth, are not overfed, are housed in sanitary quarters with plenty of light and ventilation, are supplied with enough clean bedding and are kept steadily growing, there will be little use for this pamphlet, so far as they are concerned.

Many, however, whether breeders or dairymen, have sick cows and calves; and if they are attended to at once serious sickness may be averted. We are constantly receiving requests for treatment for sick cattle, and believe that this pamphlet will be helpful to all owners of dairy cattle. These remedies are not intended to take the place of veterinary treatment, which we recommend wherever possible. They are merely home treatments for cases where it seems unnecessary to call in the veterinary surgeon.

ABORTION

There are three kinds of abortion: accidental, or that traceable to a cause, such as slipping, knocking against the barn door, riding, climbing steep hills or drinking icy water in winter; sympathetic, due to other cows calving in the same barn, with others well on toward calving, and by other cows aborting in the barn, the calf being left on the floor for a length of time; contagious abortion, due to a germ, carried either by the bull, or from other aborting cows, which will lodge on the hind quarters, enter the vulva, then the womb, multiply, eat the membranes of the calf bag and cause the cow to abort.

In cases of threatened abortion from accident, or sympathetic abortion, isolate the cow whose vulva is swollen or who shows, by a swollen udder, a tendency to abort; give an ounce of laudanum to quiet her and remove the bearing down pains, and then administer by the mouth five tablespoonfuls of fluid extract of black haw in twenty-four hours at intervals of about two to three hours. Repeat every twenty-four hours for five days, when the cow will either have slipped her calf, or will be checked. This extract of black haw is a uterine tonic and a great astringent, and draws up the vaginal muscles.

The above treatment can be beneficially given a cow who threatens to lose her calf by contagious abortion.

When contagious abortion is present, indicated by the afterbirth looking as if drained of blood, with a tallowy appearance, remove cow at once to isolated quarters; remove all bedding and burn it; bury the calf deeply and spread lime over it; wash sides, floor, manger and partitions of stall and those on both sides of it with a solution of creolin or other standard disinfectant; wash hind quarters, tail and vulva of cow on both sides of the aborting cow once a day, for a week or ten days with the same disinfectant, which is designed to destroy the germs of abortion which may have found lodgment on them.

Disinfect the aborting cow twice daily with the creolin or other wash, which is best done by using a piece of hose and a funnel to flush her out. If the afterbirth does not come away naturally, use treatment given under heading, "Retention of Afterbirth."

Continue disinfection until every sign of discharge is dried up. This is of the last importance, because a great many cows fail to breed after abortion, because they throw out an acid discharge which destroys the fertility of the male semen.

If there is contagious abortion in a herd, disinfect the sheath of the bull before every service and inject into the

cow the same disinfectant before service, so as to have a clean seed bed.

If a cow aborts, say, at the seventh month, she should not be bred until five months after; if in the sixth month, she should not be bred for six months: the object being to make her come in with next calf at the same time she would have come in naturally.

A cow that has once aborted will usually abort the next time a month earlier.

When a cow has aborted, begin the third month after service to give daily, in each feed, a teaspoonful of fluid extract of black haw, or two teaspoons once a day. Continue this up to within fifteen days of calving. This is to strengthen and build up the generative organs.

The above treatment we have found to be the best remedy and check for abortion, and always recommend it. There are many who like the carbolic acid treatment, and that method is hereby given.

Buy crystals of carbolic acid, remove cork from bottle, place bottle in hot water, and when crystals are melted mix two-thirds of acid and one-third water. In cold weather, to prevent freezing, add five ounces of glycerine to one pound of the melted acid and water.

As a wash, use fifty drops of glycerine-carbolic to one quart of water. This may be used as a disinfectant instead of creolin if desired.

To cows that have aborted, give, by the mouth, twenty-five drops of glycerine-carbolic in a half-pint of water, twice a day for the month immediately following service; then the third, fifth and seventh months.

Wash hind quarters and vulva occasionally with the glycerine-carbolic wash.

COWPOX

For cowpox, use 1 oz. glycerine-carbolic acid and 10 oz. raw linseed oil, mixed. Bathe teat with hot water and apply mixture after milking. This mixture can also be used for sore teats.

GARGET

One of the most common ailments in the cow barn is garget in its various forms. It has many different causes, such as lying on a cold floor or damp ground, being in a draught when fresh, overfeeding with heating feeds, injury to the udder, crowding with feed too fast after calving, silage or other feed that is mouldy. The chief cause of all is failure to strip thoroughly. Then there is the contagious form, caused by infection carried by milkers from one cow to another.

If in the building of the cow barn, tarred paper were laid under the concrete to cut off cold and dampness, there would be little garget caused by cold damp floors.

Cows are especially susceptible to this trouble if a draught strikes the udder when fresh, as it is extremely tender. Care should be exercised to see that windows behind fresh cows or doors near them are closed in the winter time or in the early spring when there are cold winds.

If two-thirds of the ration is composed of bulky and light feeds, instead of heavy grains, there will be little trouble with the udders. If more than 2½ to 3 lbs. of cottonseed meal or more than 4 lbs. of gluten feed is fed to a thousand-pound cow, especially soon after calving, udder trouble may be looked for. In addition to these two feeds, it is our experience that liberal feeding of brewers' dried grains or malt sprouts tends to make an inflamed udder.

Bloody milk is often caused by cows having their udders stepped on or gored or otherwise injured.

Cows who, when dry, have been fed lightly with protein feeds, thus becoming thin, need a concentrated ration to bring on a heavy flow in their early lactation. Not being in condition to take care of the latter, their digestive organs get out of order, resulting in a fevered condition, and garget. If, on the contrary, they have plenty of lean flesh to draw on for protein they need not be fed such concentrated feeds and the digestive and milk making processes work naturally and keep normal.

When a cow has a caked or inflamed udder, give immediately the drench before referred to, and in case of a light attack, take off all heating feeds such as cottonseed meal, gluten, brewers' dried grains, or malt sprouts. Confine the feeding to hay, silage or green feeds, bran, oats and a small quantity of linseed oil meal. In case the attack is a severe one, take off all feeds but hay and silage and green feeds for from 24 to 48 hours, giving all the water the cow will drink. Bathe the udder three times a day with water as hot as the hand will bear, and immediately after apply, hot, the following lotion, using it three times a day: 1 pt. melted lard or mutton tallow, to which add three tablespoons spirits turpentine. Rub this into the udder well, and continue treat-

ment until all inflammation is gone. If a cow is dry, camphorated oil may be substituted for the lard and turps; but if she is in milk it should not be used as it will dry up the milk.

If a cow is giving gargetty, thick or stringy or bloody milk, give a drench as above indicated and also take off the feed as directed, and in addition give, three times a day, by way of the mouth, the following: 15 grains Merks' chemically pure sulphate potassium dissolved in a pint of hot water, to which add 15 drops of fluid extract pokeroot. This quantity makes one dose. Repeat until the cow's milk begins to be natural.

Another liniment for caked udder is 2 oz. turpentine, 2 oz. linseed oil, 1½ oz. liquid ammonia, 1 qt. vinegar, applied three times a day.

Another medicine to be given internally for gargety, stringy or bloody milk is 2 oz. copperas, 2 oz. gentian, 4 oz. saltpetre, 4 oz. cream of tartar, ½ oz. nux vomica. Give a tablespoonful three times a day to a thousand-pound cow.

Of these remedies we prefer the first lotion and sulphate of potassium, which we originated and have used for over thirty years with unvarying success.

When a cow has a caked udder and has apparently lost a quarter, start three weeks before she calves and bathe the udder with hot water three times a day, and rub it thoroughly, immediately afterward applying the lard and turps. If it is rubbed with the hands several times a day besides, it will help still more. Give the poke root and potassium as before directed, but stop it seven days before she calves. The rubbing will stimulate the glands by setting up a good circulation, while the internal dose will aid in breaking up the caked quarter.

TEAT TROUBLES

Chapped Teats—In very bad cases, wash the teat first with a solution of one dram of sugar of lead in one pint of water, and then apply benzoated oxide of zinc ointment. In less severe cases use carbolated vaseline. If the healing is slow, put a small quantity of powdered alum on the teat after using the vaseline.

Scabby Teats—Smear with carbolated vaseline.

Warts on Teats—Smear thickly after each milking with pure olive oil; or they may be taken off with very sharp scissors and the wound touched with a caustic pencil; or a piece of silk may be tied tightly around the wart and left, when the wart will drop off.

When the caseine forms a small lump in the teat like a marble, and moves up and down, or the teat is blocked by a warty growth inside, or a closure of the milk duct, have a competent veterinary surgean called. I do not believe in using a milking tube where it can possibly be avoided. If there is any trouble in the teat, forcing the tube up will surely force the bacteria into the bag.

MILK FEVER

At one time milk fever usually proved fatal. It was seldom that cows recovered, especially when they were stricken down very shortly after calving. Fortunately, the air treatment by which air is pumped into the udder is usually so successful that the percentage of deaths is small. Milk fever can generally be detected in the earlier stages, following calving, by a drooping of the ear, dry nose, hot horn, drooping of the head and a glassy eye. Later, when the cow moves, there is a tendency to sway. This is a sign that she is very close to going down with the fever.

Every calving cow should be given the drench referred to on page 15 immediately before or after calving, not merely to act upon the bowels, but to cool the blood. If she shows any sign of the fever, great care must be taken to see that she swallows the drench, ascertained by holding the hand on her throat. If she does not swallow, lower her head and let the drench run out.

Cows often become unconscious when stricken with this disease, the eyes become glazed and they cannot feel even a puncture of the skin. The air treatment should be at once resorted to. The head of the cow should be so tied that she cannot swing it, as this endangers the limbs of those working about her. She should be propped up to rest on her breastbone, her fore legs under her and the hind legs stretched out to the left. It is necessary, to keep her in this position, to pack straw around her. Do not let her lie on her side because she may develop bloating and belching of gas which may pass into the windpipe and cause bronchial pneumonia. See that the straw on which she lays is absolutely clean. It is best to have some table oilcloth or clean muslin to place between the udder and the straw. All parts of the air pump must be thoroughly disinfected by boiling for 30 minutes and the hand must never come in contact with the teat tube after it has been sterilized or until it is inserted into the teat. It should be handled with a clean cloth. The teats and udder should be thoroughly washed with warm soapsuds, then with cold water, and the teats bathed with a 5% solution of creolin. After teats and udder have been dried with a clean cloth, the teat tube is inserted into one teat and that quarter filled with air from the rubber pump, as full as it will hold. The tube is then withdrawn and a broad tape tied around the end of the teat to prevent the air from escaping. The teat tube should then be dipped in the creolin solution, again inserted and the above process repeated, with the remaining three teats. If the cow does not respond to this treatment in two hours, it may be again repeated. The precautions to keep teats and tube clean are to prevent the introduction of bacteria into the udder, which might cause blood poisoning.

CALF SCOURS

The causes that seem to be at the bottom of this scourge are overfeeding, giving milk that is not warm enough, using foul feed buckets or having unclean surroundings. If kept in a clean, dry, well-ventilated stall, fed from clean buckets, and supplied with the right amount of milk that is 98 degrees by a dairy thermometer—not the finger of the feeder—calves should be free from ordinary scours.

If the disease does develop, add about four drops of formalin to each quart of milk. If it continues, use the following prescription: 1 oz. essence peppermint, 1 oz. Jamaica ginger, 1 oz. fluid extract catechu, 1 oz. whiskey, 1 oz. powdered French chalk, 1 oz. paregoric, 1 oz. extract gentian, and 7 oz. water. Give one teaspoonful three times a day to a calf three weeks old, increasing the size of dose according to the age and size of calf. I have never known this to fail.

Then there is also contagious scours, which appears almost invariably within one or two days after birth. It may be caused by infection in the food, but is generally believed to be due to some condition of the dam's blood before the calf's birth.

The cow should be supplied with plenty of clean, dry straw, as soon as labor starts, and it should be changed often enough to insure a clean, dry surface for the calf to drop on. Cut the navel cord long, tie it in a knot as near the end as possible, and disinfect the end with a solution of carbolic acid, ½ oz. to a quart of water; continue this treatment 3 or 4 times a day until wound is dried up. The calf must be kept clean and dry.

In the male the usual causes are a too fat condition causing fatty degeneration of the testicles and their ducts; serving too many cows when not fully matured, but, above all, lack of exercise. Where the bull is too fat, reduce his feed and if any bran is fed add to it a tablespoonful of Epsom salts daily until he becomes thinner. The bull serves best in a thin condition and is surest. Bulls in show condition are often sterile.

Too frequent use causes a loss of vitality and the bull's progeny are not as vigorous as they should be and often inherit his weakness of the generative organs, which shows later with both males and females by their becoming themselves sterile.

If the bull is started young enough there is no better way to give him exercise than the treadmill, and he can then be utilized for many purposes on the farm. Another way to exercise the bull is to have a wire stretched from the end of his exercise paddock right into his stall above the manger and fastened to the side of the wall. Have a chain from his nose ring to a pulley running on the wire, and long enough to give him freedom in serving cows. Cows can be turned in to him at any time, he is perfectly free and yet is securely kept from doing any harm.

Some bulls are very short-legged or have very deep paunches, and in such cases it is desirable to keep them from water before serving a cow.

If a bull becomes slow in service, feed from six to a dozen raw eggs a day; whole oats also are often beneficial.

Bulls that are given plenty of exercise will often do good service until they are sixteen or seventeen years old.

The main causes for non-breeding in the females are diseases of internal organs, other than the generative organs; underfeeding in winter, which causes loss of vitality; feeding a ration with too many heating and fattening grains, causing fatty degeneration of ovaries and their ducts; rigid closure of the mouth of the womb; breeding heifers too early before their organs are fully matured; overheating of the blood by too heavy feeding, which makes them "bullers"; breeding too soon after calving, before all discharges are dried up; leucorrhea; discharge of acidity after abortion, whereby the fertility of the semen is destroyed; incestuous inbreeding; disease of the ovaries and of the generative organs; an acid bacteria in the vagina, where there has been no abortion.

The most common causes are the rigid closure of the mouth of the womb, acid bacteria in vagina and diseased ovaries.

Where it is the closure of the womb, treatment should be

given when the cow is in season. The right arm should be bared to the shoulder, the hand and arm thoroughly sterilized by washing with soapy, carbolized water, the arm smeared with sweet oil or vaseline, and the hand inserted into the vagina with the fingers held closely together, the second finger above the others. When the os or channel between the vagina and the womb is reached, the second finger should be gradually worked into it, a slight pressure being made. The os will generally open gradually. If the finger can be inserted the full length, the passage is clear. A pressed, cone-shaped sponge should then be inserted in the opening of the os and left for a few hours, when the heat and moisture will expand it. It should be removed and the cow immediately be served. Sometimes, a skin growth will be found just where the os enters the womb, and in that case a surgeon must be called to cut it. The following treatment is often helpful: Dissolve 2 oz. borax and 2 oz. carbonated soda in 3 qts. warm water and inject into the vagina. Wait one hour and then have the cow served.

Where the acid bacteria are present in the vagina, the yeast treatment is very effective. It is as follows: Pour ½ pt. warm water on a compressed yeast cake, let stand for 24 hours, and add enough tepid water to make a quart and let stand another 24 hours, and inject into the vagina about an hour before service. Where the neck of the womb has been closed and has been opened by the hand it is good to inject this yeast solution an hour before service.

The cysts or tumors on the ovaries retard the full development of the ovum and prevent conception. They usually occur in cows that have been heavily fed, as for tests, for a length of time, especially where the ration has had many heating grains in it. The only thing to do in a case of this kind is to call a veterinary to remove the tumor, when the cow will almost always breed again. We have known of many such cases.

When a cow is a "buller" confine her grain feed to the cooling feeds—wheat bran, ground oats, a little linseed oil meal and add a tablespoonful (level) of Epsom salts every 24 hours.

HEAT

If a cow fails to come into heat regularly, feed daily 2 qts. ground oats and give once a day 1 tablespoonful of the following mixture: 2 lbs. salt, 2 oz. powdered nux vomica.

If a cow is constantly coming into heat or is what is commonly called a "buller," give her the drench before specified, and, in addition, give as much Epsom salts, in her daily feed, as she will stand without scouring badly. The benefit of the salts lies mainly in its cooling effect on the blood.

RETENTION OF AFTERBIRTH

This is due often to a cow aborting, to general debility or to the closing of the neck of the womb too rapidly after calving, caused by drinking cold water, or to eating cold feed, especially frozen roots. It is sometimes caused by letting the calf suck, or drawing the milk too soon.

If caused by cold water or feed, hot drinks and hot mashes of bran and oats will remedy the trouble. In any condition, a bottle or two of flaxseed tea thoroughly boiled, should be given at frequent intervals. In a very bad case, one ounce of ergot of rye or one dram of the extract of same may be used.

We do not favor removal of the afterbirth by hand. There are many cases in which it is almost impossible to entirely remove it, and, in consequence, blood poisoning or fever set in, causing serious sickness.

We prefer to attach a pound or two-pound weight to the hanging portions and allow it to come away of its own accord, feeding the cow liberally in the meantime and disinfecting the vaginal passages night and morning. This should continue until all discharge ceases.

LEUCORRHEA

This trouble is usually caused by an injury at the time of calving, or from inflammation caused by the putrefaction of some of the retained afterbirth. It is usually indicated by a large, sticky, white mass drooped by the cow during the night while she is lying down, and is to be found in the manure gutter in the morning. Sometimes there will be a slight but continuous discharge from the vulva of the cow. This soils the tail and can be distinguished in that way. The cow will not conceive while in this condition. She should be injected with a solution made with 3 tablespoonfuls of a powdered borax, 3 tablespoonfuls of sulphate of zinc and 60 drops of a 5% solution of carbolic acid in three quarts of hot water. If the cow becomes thin, through the discharge, give her 3 drams of sulphate of iron and ½ oz. of ground ginger daily in her grain feed.

PROTRUSION OF THE VAGINA

Protrusion of the vagina is caused by the cow lying in a stall that is lower near the gutter than in the front, and only during pregnancy. The cow should be placed in a stall or on a platform where the hind feet stand on a higher level than the fore feet. If this does not prove effective, a truss should be used.

IMPACTION OR INDIGESTION

Cows are gluttons: they will continue to eat until they are really sick. Impaction is due to constant overloading of the stomach, or the use of feeds which have a tendency to pack when fed to excess. If the trouble is impaction of the manifold, it may be discovered by pressing the fist against the flank, when there will be felt a large doughy mass in the cow, about the size of a man's fist. All feed should be stopped, a drench given, and the following medicine: ¼ oz. Capsicum, ½ oz. nux vomica, 11¼ oz. gentian. Give three teaspoonfuls three times a day.

Of course, one of the first symptoms of indigestion or impaction will be the loss of the cud. With the latter the cow usually has some fever and the droppings become dry and little are voided.

In severe cases of impaction the cow goes down and becomes unconscious. The veterinary should at once be called in if this happens. We have never been able to save a cow in this last condition unless the rumen was opened, and all the food taken out, the wound being sewn up. There is such a mass of food in the stomach that, unless it is removed, there is no chance for the medicine to act. The cow should be sustained by milk administered constantly while she is getting no feed. She will rarely eat while in this condition, but will generally drink. Another way to sustain vitality is by giving hay tea, made as follows: Use a wooden bucket, and fill it one-third full of clover heads or alfalfa leaves, and two-thirds boiling water. Cover closely and let steep. Pour off and give some in the drinking water.

In a simple case of indigestion give the drench, take off all feed for from 24 to 48 hours, and if at the end of 24 hours the cow is voiding her manure freely, give the same medicine in like quantities as for impaction of the manifold.

OFF FEED

This disturbance is Nature's protest against overfeeding. Give drench set out on page 15 immediately. Take off all grain feed for two days, feed nothing but hay and silage or green feed and plenty of warm water, and the cow will usually get back her appetite in two days. If the cow is hidebound, in addition, give the condition powders set on page 15.

DEPRAVED APPETITE

Cows and calves are both subject to an apparent desire to eat foreign substances, such as shavings, lime, earth, etc. This is caused by impaired digestion, and sometimes to the fact that there is not enough ash in their feed, and nature craves it. Good results are often secured by feeding three teaspoonfuls of powdered charcoal in the feed, three times a day. In addition, give the following: Mix 1 lb. finely ground bone, 4 oz. powdered gentian, 4 oz. carbonate lime, 4 oz. powdered fenugreek, 4 oz. powdered caseine. The dose is a tablespoonful three times a day.

DRENCHES

A drench is the most useful remedial agent in the cow barn. If a cow is fevered, off her feed, has inflammation of the udder or any other form of garget, the first thing is to administer a drench; and she should have one before or immediately after calving. Many seem to think that the great benefit of a drench is in its purgative effect. This is an error. Epsom salts are not only purgative, but thin the blood, thereby lessening fever. There are many conditions of the cow that are benefited by cooling the blood. The following is our drench which we have used successfully for over thirty years: 1 lb. to 1½ lbs. Epsom salts, according to size of cow; 2 heaping tablespoonfuls Jamaica ginger, 1 qt. molasses, add to 1 qt. boiling water. Give as a drench in a strong bottle. Care must be taken, when giving the drench, to see that the liquid is not poured too fast, overflowing the mouth and getting into the lungs. It is well to have an attendant hold the horns so that the man giving the drench can hold his hand under the throat to see that the liquid is swallowed. If the cow fails to swallow, turn the head down and let the drench run out of the mouth.

CONDITION POWDERS

There are times when, from the staring coat of a cow, or a tight hide, we know it would be benefited by condition powders, which are in no sense a feed, but a medicine. The following is as effective as any that can be purchased, and will not cost more than $75 to $100 a ton: 20 lbs. linseed oil meal, O. P., 1 lb. powdered charcoal, 1 lb. Epsom salts, 1 lb. common salt, 12 oz. saltpetre, 12 oz. powdered gentian and 9 oz. fenugreek. Give 1 tablespoonful twice a day in the feed. It is always better to precede the giving of this by a drench, directions for which will be found under the chapter on drenches.

Flies are pests that in the summer greatly diminish the milk flow. We prefer letting cows out at night, keeping them in a darkened stable in the daytime, and having spools of fly-paper hung from the ceiling. A good repellant is the following: Fish oil, 100 parts; oil of tar, 50 parts; crude carbolic, one part. This should be applied by a pump every second day.

The horn fly gathers on the horn in great numbers and causes the animal much suffering. The same spray will help, but must be used oftener as it dries out on the horn.

Cows in poor condition are those usually affected by lice. These insects cannot live in grease. They are generally found at the root of the tail, along the ridge of the back and at the base of the horns. If these parts are thoroughly smeared with carbolated vaseline, it will usually kill lice. In summer a sheep dip can be used and sponged onto the cows. In winter they are liable to take cold from this and the following is very effective then: Steep 4 oz. larkspur seed in one gallon of boiling water and allow to stand 12 hours. Strain and apply to affected parts by a sponge as often as necessary. Or put on the larkspur seed, 1 pt. gin, and let stand for 48 hours. Then pour off into enough water to make a gallon.

When lousy cows are put into winter quarters, the lice spread through the stable. It is, therefore, needful to spray it with some standard germacide.

Warbles or bots or grubs are all caused by the warble fly, about ½ inch long, hairy and somewhat like a black bee. When the warbles show large, press out, using a knife, if necessary, to enlarge the opening. Or enlarge the opening through which the warbles breathe, and use a small machinist's oil can to deposit a few drops of kerosene which will kill the pest.

Ringworm is denoted by circular, bare, inflamed patches of hide. It may be communicated from calf to calf or from cow to cow. Wash the crust with clean warm water and castile or ivory soap, and then apply any of the following: Dioxogen, tincture of iodine, sulphur and lard (as much sulphur as the lard will take up) or nitrate of mercury ointment, once a day. Spray the stable with a disinfectant, and where possible whitewash it to destroy all spores.

BLOATING OR HOVEN

This is often brought on by cows staying too long on first flush of pasture, or eating too much potato or cabbage or wheat middlings. In the latter there is considerable flour. Grass with the dew on it, frozen roots, or grass with hoar frost on it, may cause this trouble.

When cows show bloating it is best to keep them in motion, and give immediately two ounces of aqua ammonia in a pint of hot water, repeatng in half an hour, and again a third time in a half hour, if need be. With the first dose give two tablespoonfuls spirits turpentine, in oil or melted lard to prevent the turpentine burning. The turps nullifies the gas. In extreme cases, and only when absolutely necessary, a trocar may be used. It should be inserted in the left side of the cow, at a point "equally distant from the last rib, the hip bone and the transverse processes of the lumbar vertebrae." An incision should be made with a knife, one-quarter of an inch long, at this point. The trocar should be left until every vestige of gas has escaped. In escaping, it sometimes drives some of the fine feed into the opening of the trocar and chokes it up. It is necessary to remove it, clean, and insert again. Sometimes it is advisable to tie the trocar in and leave it for several hours. If no trocar is at hand, a goose quill can be used, with a very small piece of the rounded end clipped off, inserted and held by the hand.

SWOLLEN KNEE.

This trouble is usually caused by a bruise, very often in rigid stanchions or through rising on the knee on a concrete floor. Unless the swelling is hard like bone, first bathe, then open at the base with a knife, and with a silver spoon scoop out all matter and inject the wound with tincture of iodine. Where the swelling is attached to the bone, and is hard, paint with iodine, repeating as often as necessary.

RHEUMATISM

It is not often that rheumatism occurs in cows, and when it does is usually due to exposure to dampness and cold. The animal should be well sheltered in a dry, clean, stall, with plenty of light, and protected from draughts.. She should have laxative and easily digested food and be given pure water. Where the trouble becomes acute or chronic, give every two hours for ten hours, ½ oz. sodium salicylate; after that once a day only, until the cow is better, when it should be discontinued.

BRONCHITIS

Any animal suffering from bronchitis should be placed in a light, well-ventilated stall free from draughts, and the bowels kept open by injections, not by purgatives. In the first stages give three times a day the following: 2 drams extract belladonna, 4 fluid ozs. acetate of ammonia in one-half pint water. Give in a pint of linseed tea, every four hours, 1½ oz. nitrous ether, 2 oz. aromatic spirits ammonia and 2 drams powdered camphor.

LEAD POISONING

Cattle will often lick freshly painted surfaces and will, if they can get at it, eat paint by the pailful. The symptoms of lead poisoning are dullness, colic, lying down with head turned back toward flank, loss of use of the limbs, champing of jaws, violent bellowing, moving in a circle, etc.

Epsom salts should be given at once, and if there is any evidence of brain trouble bromide of potassium should be given in half-ounce doses every four hours, and cold water should be applied to the head. When the drench is given, a half ounce dose of dilute sulphuric acid should be added. After cows begin to recover from the acute symptoms, 2 drams of iodide of potassium should be given three times a day for a week. The cow should be fed milk.

CLOTS ON VAGINA

Very often blood clots will appear on the walls of the vagina in the early periods of lactation. They are easily distinguished from those due to abortion, being deeper in color and showing more inflammation. The following is quite effective. Sponge twice a day with a lotion made of 1 dram sulphate of zinc, 1 dram carbolic acid and 1 quart of water.

LUMP JAW

Lump jaw is caused by a fungus growth found on barley, oats and other grains. It cannot be directly conveyed by one animal to another.

The Norgaard treatment, which has been very effective, is as follows: Iodide of potassium is administered in doses of from 1½ to 2½ drams dissolved in water, once a day, and given as a drink. Larger animals get the larger dose, smaller cattle the lesser one. At about the end of a week the skin becomes scurfy, there is running at the nose and eyes and loss of appetite. This shows that the medicine has been effective; and when this stage is reached the medicine must be discontinued for a few days. It is then again administered in the same doses until the skin becomes scurfy and the discharges at nose and eyes begin again. It must then be discontinued for a few days. This treatment usually takes three to six weeks to be effective.

FOUL FOOT

In the earlier stages, before pus forms, apply undiluted creolin with a swab of cotton on a stick. Care must be exercised that none of the creolin comes in contact with the skin. Smearing the hoof with pitch and carbolic is a good thing, care having been taken to have the foot clean. If there is much pain use a bran poultice.

POISONOUS VEGETATION

The following are poisonous to cattle: Poison alder, wild cherry leaves and sumac leaves. An antidote for these poisons is 1 quart of raw linseed oil, to which add 1 pt. whiskey. Give immediately in one dose. Repeat in an hour, if necessary; or give one tablespoonful of ground mustard seed in 1 pt. of sweet milk. Repeat in an hour, if needed. Either can be used for mild paint poisoning.

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